Case Report

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A RARE CASE OF BREAST ABSCESS DUE TO SALMONELLA TYPHI

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ABSTRACT

Breast abscess is a common clinical condition in the young reproductive age group and is mainly caused by gram positive cocci and anaerobes .The incidence of breast abscess in a patient with typhoid is 0.3%-0.9% in females. Here we report a 60 year old diabetic female patient admitted with history of fever for 10 days followed by pain and lump in the right breast for two days. She gave no history of taking any antibiotics. On admission she was afebrile, a lump of size 7×5 cm in the upper outer quadrant of right breast, firm in consistency without any signs of inflammation. Ultrasonagram of the right breast revealed a breast abscess. Incision and drainage procedure was done and the pus sent for culture and sensitivity test. Salmonella typhi was isolated as the only infective agent from the pus and was sensitive to ampicillin-sulbactum and amikacin. The patient had no evidence of systemic typhoid (negative widal and Blood culture). The patient recovered completely with drainage under antibiotic cover. The case is being presented for its rarity

Key Words: Breast abscess, Salmonella typhi, Widal test, Typhoid fever

INTRODUCTION

Enteric fever is endemic in developing countries such as India where healthy sanitary conditions and potable water are not accessible to all. Patients typically present at the end of the first week after the onset of symptoms with fever, influenza-like symptoms with a dull frontal headache, malaise, etc., but with few physical signs. A coated tongue, tender abdomen, hepatomegaly, and splenomegaly are commonly found. A relative bradycardia is also common in typhoid. Blanching erythematous maculopapular lesions commonly called 'rose spots' are reported in 5–30% of cases.[1] If untreated or where the implicated organism is resistant to the treatment being given, there may be seeding of salmonellae in various organs of the body.[2] Such patients usually present with abscess formation and fever. There have been occasional reports on the occurrence of abscesses due to *Salmonella* spp., such as liver,[3] spleen,[4] and anterior abdominal wall,[5] but unilateral breast abscess is a rare presentation. We present here a rare case of an old non lactating, immunocompetent female who presented with unilateral breast abscesses due to *Salmonella typhi*. We also review the literature on breast abscesses due to *Salmonella typhi*.

CASE REPORT

A 60-year-old female patient presented with complaints of pain and swelling of right breast for 10 days duration. Two weeks prior to that she had low grade fever without chills and rigor lasting for 3 days which subsided on its own without any antibiotics. There was no history of right nipple discharge or nipple retraction. There was no history of right axillary swelling. The patient was a known diabetic on irregular treatment. General examination of the patient was unremarkable. She was afebrile. She was not anaemic and adequately hydrated. Local Examination of right breast revealed a firm swelling of size 5x4 cms occupying the upper outer quadrant and the skin over the swelling was erythematous. The right breast swelling was warm and tender which was not fixed to the underlying structures. Right nipple and areola complex appeared normal. There was no regional or generalized lymphadenopathy. Left breast and axilla were normal. Other systems were normal. Investigations:CBC-Hb-12.6 g/dl, TC-12000 cells/cumm, DC- Neutrophil- 68 %, Lymphocytes-24%, Basophil-2%, Renal function test-Urea- 26.6 mg/dl, Creatinine-0.8 mg/dl ,Sodium-134 mEq/dl, potassium-4.2 Meq/dl, Choloride -101 mEq/dl ,Urine for Albumin, sugar and deposits- nil. Blood sugar-205 mg/

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dl. Chest x ray PA view revealed no abnormality. ECG was within normal limits. Utrasonogram (USG) of right breast revealed an irregular and ill defined hypo echoic lesion of size 1.5x1.3cms in the upper outer quadrant. Under General Anaesthesia and the patient in supine position, diagnostic aspiration revealed pus, hence it was followed by incision and drainage. About 15 ml of pus was drained and necrotic material of the abscess cavity was scraped out. The scrapings from the wall of the abscess cavity were sent for histopathological examination and the pus was sent for culture and sensitivity. A tube drain was kept and wound dressing was done regularly. The right breast wound healed in 10 days. Histopathological examination of the scrapings from the abscess cavity wall revealed features consistent with a suppurative lesion. The surprise came from the pus culture and sensitivity report which revealed salmonella typhi growth and the organism was sensitive to Amikacin/Ampicilinsulbactam/Cefepime/Ceftazidime/Pipataz/Imipenam.No other organism was grown in culture.(Figure 1) In hind sight the patient was investigated for systemic typhoid. The reports are as follows: Blood Widal test was negative (o typhi 1 in 40 and H typhi 1 in 80). Blood Culture did not grow any organism. Peripheral smear study was normal. Stool for typhoid bacillus was negative.

Figure 1: Shows growth of the salmonella colonies in Macconkey agar plate

DISCUSSION

Salmonella typhi bacteremia is occasionally associated with extraintestinal disease.[2] It is capable of forming abscesses in various organs such as liver, subcutaneous tissue, muscles and skin. The pathogenesis of abscess formation is not well established. The possible causes may be infective bile from carriers, hematogenous spread from distant site, and lymphatic spread from gastrointestinal tract. Bilateral breast abscesses due to *Salmonella typhi* are a rare presentation[6]. The present case was associated with a detectable bacteremia in the past. The incidence of breast abscesses in patients with typhoid has been shown to be around 0.3% by Klose and Sebening (1930) and 0.5% by Pezinski (1937) in a study of 1196 cases of typhoid over a period of 2 years. In females, the incidence was 0.9%.[7] Other authors have also reported similar cases of unilateral breast abscess due to *Salmonella typhi*.[8,9] Other nontyphoidal salmonellae have also been associated with cases of breast abscess. Razeq *et al*[10]and Edelstein *et al*[11] had isolated *Salmonella* Landweisser and *Salmonella* serogroup B in breast abscess, respectively. In a recently published study from Kuwait, a very rare serotype, *Salmonella* enterica serotype Poona, was isolated from a case of breast abscess that was associated with erythema nodosum.[12]Neonatal mastitis due to *Salmonella* spp. has also been published.[13] Kumar[14] reported a multidrug-resistant typhoid with breast abscess. On analyzing the available literature on breast abscesses due to *Salmonella* spp., we found that most of the patients were immunocompetent females between the ages of 23 and 45 years. They were non lactating. However, no common predisposing factors could be elucidated. The following are associated with the salmonella species.[8]

a) Typhoid fever and its complications.
b) Gastroenteritis.
c) Septicemia with abscess in liver, spleen, brain, parotid, etc..
d) Cholecystitis and carrier stage
e) Venous thrombosis
f) Cystitis, bacilluria, epididymo orchitis
g) Osteomyelitis. In Breast abscess the possibility of isolating salmonellae is remote if culture is done by using the following culture media[10].
    1) Mac Conkey &Deoxycholate citrate media(DCM).
    2) Wilson & Blair bismuth sulphite medium
    3) Selenite F broth media
    4) Tetrathionate broth.

CONCLUSION

Any breast abscess in a nonlactating female with a history of typhoid fever in the recent past and with no other predisposing factors must be evaluated throughly, keeping in mind the possibility of a *Salmonella* breast abscess. A combination of medical and surgical treatment would help in such a patient for a complete cure, when supported by microbiological culture and sensitivity report.

Footnotes

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